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## The Spanish version of the Criminal Sentiment Scale Modified (CSS-M): Factor structure, reliability, and validity



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### ABSTRACT

The purpose of this study was to translate and validate the Criminal Sentiment Scale Modified (CSS-M), which measures the criminal attitudes into Spanish. Despite the large body of research proving their importance as one of the best predictors of criminal conduct, only a few measures have been psychometrically developed and validated, and none of them are available in the Spanish language. A sample of 153 male inmates from Penitentiary Brians I of the Catalan Prison Service (Spain) participated voluntarily in the study (73.9% of Spanish nationality, mean age = 37.3) completed the final version of the Spanish adaptation. An exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) were conducted with all the scales simultaneously, showing that the underlying structure of the CSS-M was best explained by a two-factor solution: Sentiments toward the establishment and Criminality self-benefits. Moreover, a set of analyses of variance (ANOVA) was also performed, validating the scale well. According to the results of the study, it was concluded that the Spanish version of the CSS-M has satisfactory psychometric properties, enabling its potential usefulness within the legal field of Spanish-speaking countries as a key element in crime prevention.

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### Versión española de la Criminal Sentiment Scale Modified (CSS-M): estructura factorial, fiabilidad y validez

### RESUMEN

El propósito de este estudio fue traducir y validar la Criminal Sentiment Scale Modified (CSS-M), que evalúa las actitudes criminales. A pesar de la cantidad de investigaciones señalando su importancia como uno de los mejores predictores de la conducta criminal, existen muy pocos instrumentos válidos y psicométricamente bien desarrollados, de los cuales ninguno está disponible en lengua española. Una muestra de 153 internos de la prisión Brians I de los Servicios Penitenciarios de Cataluña (España) participaron voluntariamente en el estudio (73.9% españoles, edad media = 37.3 años) cumplieron la versión final de la adaptación española. Se realizó un análisis factorial exploratorio (AFE) y después un análisis factorial confirmatorio (AFC) con todas las subescalas de forma simultánea, siendo su mejor estructura subyacente representada por dos factores: sentimientos hacia los estamentos normativos y autobeneficios criminales. Además, se realizaron varias comparaciones de medias (ANOVA) mostrando una buena validez del instrumento. Según los resultados del estudio se concluye que la versión española del CSS-M tiene adecuadas propiedades psicométricas, potenciando su utilidad en el mundo jurídico-penal de países hispanohablantes como elemento esencial para la prevención de delitos.

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One of the everlasting concerns of societies has been to come up with the best way to protect citizens from crime and prevent offenders from committing further offences. Now, from the first researchers of the late 1990s we know the precedent factors that are involved in causing crime. Research by Andrews and Bonta (1995) identified four domains that best predict the criminal conduct, including history of criminal behaviour, antisocial personality pattern, antisocial cognition, and antisocial associates, all known as the “big four”. A second set of variables with moderate association to predicting crime was family/marital circumstances, school/work, leisure/recreation, and substance abuse. The present study is based on one of the big four factors, antisocial cognition, which is defined as “attitudes, values and beliefs, and rationalizations supportive of crime” (Andrews, Bonta, & Wormith, 2006). An attitude, defined as “an evaluative process wherein the person has a disposition to respond positive or negative toward a person or object” (Ajzen, 1991), has a strong relationship with behaviour, playing a central role to make a decision at the “psychological moment”, inhibiting or facilitating an action (Ajzen & Fishbein, 2005; Maio & Haddock, 2010).

The key point is that criminal attitudes, also known as *criminogenic needs* (Gendreau, Little, & Goggin, 1996), are dynamic factors, thereby being changeable and amenable to treatment (Arbach-Lucioni, Martínez-García, & Andrés-Pueyo, 2012; Mandracchia & Morgan, 2012; Redondo, Martínez-Catena, & Andrés-Pueyo, 2012). Andrews (1980) showed changes in criminal attitudes of offenders in contact with volunteers during an 8-week treatment whilst in the community and within a prison institution (Andrews, Young, Wormith, Searle, & Kouri, 1973). The reduction in recidivism is much higher in programmes that are concerned with criminogenic needs than in those focusing on non-criminogenic needs (Hanson & Harris, 2000). This is the fundamental reason why criminal attitudes have to be at the core of the treatment programmes in prison or in the community. Nonetheless, although this need/risk factor is inherent in traditional criminological theories such as different association (Sutherland & Cressey, 1978) and control (Hirschi, 1969), little attention has been paid to the construct “criminal attitude” in social psychology. One of the reasons is the lack of a uniform terminology. There have been many different terminologies to describe the construct “criminal attitudes”, like antisocial attitudes (Kroner & Mills, 1998), thinking styles (Walters, 2012), social cognition (Blackburn, 1993), or procriminal attitudes (Andrews & Bonta, 1995). The most suitable way to describe the construct “criminal attitudes” appears to be “the constellation of criminally oriented attitudes, values, beliefs, and rationalizations” (Simourd, 1997). It is also sensible to classify criminal attitudes into three main categories: rejection of convention, techniques of neutralization, and identification with criminal others (Andrews & Bonta, 1995).

A second reason why the criminal attitude construct has been largely overlooked is the lack of suitable assessment instruments. There are only a few appropriate and valid instruments capable of measuring criminal attitudes in a reasonable and useful manner (Banse, Koppehele-Gossel, Kistemaker, Werner, & Schmidt, 2013). All of them come from North America, and although they are known worldwide, none of them has been translated nor validated into Spanish yet. Among the few valid instruments that measure criminal attitudes there is the *Pride in Delinquency (PID)* scale, developed by Shields and Whitehall (1991), the *Measures of Criminal Attitudes and Associates* scale (MCAA; Mills, Kroner, & Hemmati, 2004), the *Psychological Inventory of Criminal Thinking Styles (PICTS)*; Walters, 2012), and the modified version of the *Criminal Sentiment Scale (CSS-M)*; Shield & Simourd, 1991; Simourd & Olver, 2002). Only the CSS-M takes into account just the content and the three categories of criminal attitudes, but not the process.

The CSS-Modified improved some flaws of the original *Criminal Sentiment Scale (CSS)*; Gendreau, Grant, Leipziger, & Collins, 1979) in the following ways: (a) some items were modified in order to be more understandable, (b) the score of the first subscale was swept from a 5-point Likert scale to a 3-option response, and (c) the structure analysis appeared to be different. Kroner and Mills (1998), with a sample of 331 male offenders, used a two-factor structure of the original CSS, specifically, labelled *Contempt for Criminal Justice Personnel* (accounting for 17.4% with an eigenvalue of 8.64) and *Disrespect for Conventional Law* (16.2%, eigenvalue of 2.43). Simourd and Olver (2002) came up with a four-factor model in their modified version (CSS-M) instead. The EFA and CFA were conducted separating the items by subscales, so that two of the factors (*General Criminal Sentiments* and *Adversarial Toward the Law*) come from the first subscale, and two others (*Criminal Subcultural beliefs* and *Criminal Self-Concept*) come from the remaining two subscales. Both scales have been widely used in many different and relevant studies (Andrews & Bonta, 1995; Skilling & Sorge, 2014; Wolff, Morgan, & Shi, 2013).

The present study had the main goal of testing the validity and reliability of the CSS-M and investigating its factorial structure. By doing this, the study expects eventually to enable the CSS-M to be used to assess criminal attitudes across different Spanish-speaking countries.

## Method

### Participants

The sample consisted of 153 male inmates from one of the sixteen Catalan prisons (Spain), the medium-security institution *Brians I*. This penitentiary center is one of the largest, housing approximately 1,400 inmates, both men and women, and is run by the Catalan Prison Service. These inmates were selected according to the residential unit they lived in and the type of offence they had committed. This ensured that no crime was overrepresented. The sample of offenders was taken from different regular modules and units. Each participant was under grade 2 regime and free from any punishments at the time. To ensure the sample was valid, it was important that all inmates had a good reading ability – special care was taken to guarantee this. Mean age was 37.3 years ( $SD = 10$ ), ranging from 21 to 81. The Spaniards represented 73.9% of the sample, the other 26.1% being foreigners. Since previous studies have pointed out whether the crimes committed were violent or not (Andrews & Bonta, 2010), we focused on this variable, considering a crime as violent only if it had been committed in a physical manner; 38.6% of the inmates had committed a non-violent crime and 61.4% had perpetrated violent offences. The length of the sentences ranged from 1 to 23 years of incarceration, with a mean term of 7.2 years ( $SD = 5.7$ ).

In this study we defined a recidivist as an inmate who has been released from prison after serving his sentence and then re-enters prison because he or she has committed a new crime afterwards. Therefore, this variable ignores the number of crimes perpetrated (a person can commit a large number of crimes but enter prison for the first time), focusing only on the offence or offences committed between release and re-entry to prison. That said, 47.1% of inmates of the sample entered prison for the first time to serve a mandatory punishment of imprisonment, and 52.9% had relapsed on the aforementioned terms, returning to prison for the second time or more; 47.7% were serving only one sentence and 52.3% were serving two or more terms. This disregards any prior offences committed before the current entry date. We did not take into consideration the release day, nor the proportion of the overall sentence already served, in order to better randomize the sample.

## Instrument

*Spanish version of the Criminal Sentiment Scale Modified (CSS-M).* The Spanish version of the CSS-M consists of the same number of items, 41, as the original English scale. Each of the subscales represent one of the three general categories of criminal attitudes: the subscale Attitudes toward the Law, Court and Police (LCP) comprises the first 25 items, e.g., “The law doesn’t help people (L)”, “You cannot get justice in court (C)”, or “Life would be better with fewer cops” (P). This subscale refers to the category Rejection of Convention, meaning that people who refuse social norms and law-enforcing public institutions are more prone to break the law. The second subscale is Tolerance for Law Violations (TLV), e.g., “A hungry man has the right to steal”, with 10 items related to the category of neutralization. This kind of attitude allows people to let themselves do something socially wrong, making it easier for them to break the law. The third subscale is the Identification with Criminal Others (ICO), with 6 items, e.g., “No one who breaks the law can be my friend”. This category is closely related to the third risk factor of the Big Four, criminal associates, but while the former refers to the inner thoughts to identify oneself as a criminal, the latter implies that one explicitly spends time or not with such criminals. The score of the CSS-M ranges from 0, meaning absence of pro-criminal attitudes, to 82. Thus, higher scores reflect higher levels of criminal attitudes by the respondent.

The responses of the original CSS-M (*agree, disagree or undecided*) were changed to *yes, no, or question mark (?)* to avoid misunderstandings among inmate respondents. The acceptance of a prosocial statement or the rejection of a criminal one yields 0 points, whereas an endorsement of a criminal statement (items of reverse score) or the rejection of a prosocial one yields 2 points. An undecided response always yields one point.

## Procedure

In order to translate and adapt the CSS-M into Spanish, the most reliable and known procedure, the backward-translation method (Hambleton, 2005) was used. To achieve this, firstly a bilingual person translated the original scales into Spanish, focusing more on the idiomatic meaning than on word-for-word translation. Secondly, another professional who was unfamiliar with the scale made a backward-translation of the reviewed version into English again. Then, to verify that the meaning of the scales was preserved, both English scales versions were compared and reviewed to make cultural and vocabulary adaptations. Afterwards, a group of prison professionals reviewed a defined Spanish version of the CSS-M. This translation technique avoided any flaws or losses in translation compared to a direct one. The CSS-M Spanish version was administered by a team of both psychologists and educational workers who had been adequately trained to administer it. They explained each of the steps of the confidentiality agreement and guidelines scale. Because of the vulnerability of the inmates as a sensitive group, it was important to highlight that answering the CSS-M SV was entirely voluntary. The confidentiality agreement was based on three key aspects: (a) that the information provided by the inmate would not have any impact on their prison life in any case, so that they answer exactly what they think; (b) that the information they revealed through the questionnaire was only under their consent; and (c) that the inmates’ name would not be placed in any public or private document, but managed by a five-digit random code. Inmates were told about the detailed instructions at the very beginning of the questionnaire, remarking that it was not a test with good or wrong responses, that they should try to answer it honestly, and that the material was just for experimental and research purposes. Offenders answered the CSS-M Spanish version

**Table 1**

Descriptive Statistics and Dimension Reliability of the Subscales

CSS-M subscales	M	SD	$\alpha$	Max.	Min.	Kurtosis	Symmetry
L	8.08	4.27	.71	18	0	-.625	.058
C	9.82	3.62	.73	16	0	-.194	-.556
P	7.37	3.55	.75	14	0	-.737	-.085
LCP	25.27	9.70	.86	47	1	-.302	-.282
TLV	8.12	3.96	.62	20	0	-.191	.346
ICO	3.78	2.71	.61	12	0	.441	.899
CSS-M	37.18	14.09	.89	72	5	-.188	-.104

Note. L=law; C=court; P=police; LCP=law, court, police; TLV=tolerance for law violations; ICO=identification with criminal others; CSS-M=Criminal Sentiment Scale-Modified total score.

voluntarily without any remuneration. Only four inmates refused to do it.

## Data analysis

Data analysis was carried out using the programs SPSS version 15.0 (SPSS Inc., 2006) and Mplus (Muthén & Muthén, 2010). They started with an item analysis, which included indices of reliability. It was followed by the analysis of the factor structure conducting an explorative factor analysis (EFA) by an oblique rotation technique and a confirmatory factor analysis (CFA). Finally, several mean comparison analyses, by ANOVA procedure, were also carried out to establish significant group differences.

## Results

### Item Analysis

The 41 items of the CSS-M scale were analysed. In general, most of the items had a mean rating of around 1, indicating that they did not have a skewed distribution. Items 1 and 6 were exceptions, as both were not normally distributed, with means of 0.15 and 0.1 respectively. Tests of normality were conducted, regarding the values of skewness and kurtosis of the variables. Despite the problems with the two items, the reliability of the total scale had not been weakened. Table 1 shows the means, standard deviations, Cronbach’s alpha, maximum, minimum, kurtosis, and symmetry for each subscale.

### Reliability Analysis

Cronbach’s alpha coefficient was used to establish the internal consistency of the scale. The alpha values of the subscales ranged between .61 and .86. The reason the ICO subscale had the lowest coefficient was because it only had 6 items. Even so, it was slightly better than that of the original’s ( $\alpha = .51$ ). The overall alpha coefficient of the Spanish version ( $\alpha = .89$ ) was very similar to that of the English scale ( $\alpha = .91$ ) by Simourd and Olver (2002). Correlations between CSS-M subscales shown in Table 2 were all statistically significant.

### Construct Validity

An analysis of the structure of the scale was carried out through an Exploratory Factor Analysis (EFA) with an Oblique rotation technique, completed by the default Geomin rotation of the Mplus statistic package. Prior to this, we found that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .73 and Bartlett’s test of sphericity achieved was statistically significant ( $\chi^2 = 3053.34, p < .001$ ), showing the appropriateness of performing the EFA. This took into account all the 41 items, eigenvalues

**Table 2**  
Correlations among the Subscales of the CSS-M Spanish Version

	L	C	P	LCP	TLV	ICO
L	-					
C	.547**	-				
P	.573**	.614**	-			
LCP	.855**	.839**	.848**	-		
TLV	.541**	.531**	.517**	.626**	-	
ICO	.418**	.206*	.382**	.401**	.567**	-
CSS-M	.821**	.767**	.803**	.942**	.821**	.628**

Note. L = law; C = court; P = police; LCP = law, court, police; TLV = tolerance for law violations; ICO = identification with criminal others; CSS-M = Criminal Sentiment Scale-Modified total score.

\* $p < .05$ , \*\* $p < .01$ .

greater than 1, and loadings above .30. As shown in Table 3, the most suitable factor solution was a two-factor structure, accounting for 28.4% of the overall. Factor 1 was labelled Sentiments toward the establishment, comprising the majority of the items of the LCP subscale, while Factor 2, labelled Criminality self-benefits, contained most items of both the TLV and ICO scales.

To test the hypothesis that the CSS-M had a two-factor structure, a confirmatory factor analysis (CFA) was performed. The results showed that this model fitted reasonably well to data (Hu & Bentler, 1999),  $\chi^2/df = 1.89$ , RMSEA = .07 [.06, .08], SRMR = .08. Additionally, cross-validation (splitting the sample into two groups, odd and even participants) exhibited similar results, supporting the stability of the model fit and the generalization to other samples of the same population (Arce, Velasco, Novo, & Fariña, 2014).

A one-way analysis of variance (ANOVA) was completed separately to analyse possible differences of criminal attitudes within some groups: nationality, age, type of offence, recidivism, number of crimes serving, and sentence length (see Table 4). Inmates who committed violent crimes showed higher level of criminal attitudes than those who committed offences without violence ( $p = .05$ ), while people who committed a crime and entered prison for the first time had lower levels of criminal attitudes than those offenders who relapsed, that is, returned to prison for committing another crime ( $p = .034$ ).

However, whether the inmate was currently serving a sentence for committing one or more crimes did result in higher or lower criminal attitudes scores. Hence, the number of crimes they were serving sentence for was an irrelevant variable in determining the inmates' criminal attitudes ( $p = .306$ ). Likewise, to serve a term of ten or more years was also irrelevant ( $p = .087$ ). Foreigners and nationals did not have significant differences in criminal attitudes either ( $p = .909$ ).

## Discussion

The aim of this study was to validate and analyse the psychometric properties of the Spanish version of the Criminal Sentiment Scale Modified, this being the first time that this scale had been adapted into Spanish. The results of our study demonstrate acceptable reliability and validity with the assessment of criminal attitudes within the sample of inmates from the Catalan Prison Service. We found a two-factor solution as that performed by Kroner and Mills (1998) in the original CSS scale, instead of a four-factor solution of the most recent study of CSS-Modified by Simourd and Olver (2002). According to these authors, their study provided more comprehensive factor analytical techniques, separating each scale to complete the analysis. Even so, the fourfold structure was similar in item content to those factors previously derived by Kroner and Mills (1998). Simourd claimed that the separation of each scale beforehand improved the psychometric properties, while completing the analysis with all the items

**Table 3**  
Oblique Rotation Loading for the Criminal Sentiment-M Spanish Version

Summary of items	Factor I	Factor II
1. Todas las leyes se merecen nuestro respeto (L)	<b>.537</b>	-.039
2. Es nuestra obligación respetar las leyes (L)	.059	.287
3. Las leyes suelen ser malas (L) <sup>a</sup>	.039	<b>.580</b>
4. Las leyes están podridas (L) <sup>a</sup>	.353	<b>.395</b>
5. No puedes respetar las leyes porque ayudan solo a unos pocos (L) <sup>a</sup>	.243	<b>.389</b>
6. Las leyes están para cumplirlas (L)	.201	.200
7. Las leyes no ayudan a la gente normal (L) <sup>a</sup>	.079	.168
8. Las leyes son buenas (L)	.333	<b>.357</b>
9. La ley y la justicia son la misma cosa (L)	<b>.514</b>	-.407
10. Las leyes perjudican a toda la sociedad excepto a unos cuantos privilegiados (L) <sup>a</sup>	<b>.485</b>	.197
11. Cualquier juez se puede comprar (C) <sup>a</sup>	<b>.420</b>	.144
12. En un juzgado no hay justicia (C) <sup>a</sup>	.070	.223
13. Los abogados son honestos (C)	<b>.599</b>	-.102
14. El Fiscal a veces manipula las pruebas del juicio (C) <sup>a</sup>	<b>.571</b>	.077
15. Los jueces son honestos y amables (C)	<b>.463</b>	.099
16. Las decisiones judiciales son siempre justas (C)	<b>.528</b>	-.223
17. Si tienes dinero puedes amañar un juicio (C) <sup>a</sup>	<b>.623</b>	-.001
18. El juez es una buena persona (C)	<b>.391</b>	.164
19. La policía es honesta (P)	<b>.657</b>	-.007
20. Los policías ayudan a las personas que lo necesitan (P)	<b>.591</b>	-.011
21. La vida sería mejor con menos policías (P) <sup>a</sup>	.279	<b>.389</b>
22. Se debería pagar más a los policías por su trabajo (P)	<b>.418</b>	.190
23. La policía es igual de corrupta que la gente que detienen (P) <sup>a</sup>	<b>.482</b>	.211
24. La sociedad sería mejor si hubieran más policías (P)	<b>.465</b>	-.107
25. La policía casi nunca ayuda a la gente (P) <sup>a</sup>	.290	.257
26. La gente como yo tenemos que quebrantar la ley para sobrevivir (TLV) <sup>a</sup>	.152	<b>.545</b>
27. La gente con éxito incumple la ley para vivir (TLV) <sup>a</sup>	.262	<b>.331</b>
28. Tengo que cumplir las leyes aunque esto me perjudique en mi vida (TLV)	.189	-.049
29. Incumplir la ley está bien si no te detienen (TLV) <sup>a</sup>	-.029	<b>.714</b>
30. Si la gente supiera que no les van a detener cometerían delitos (TLV) <sup>a</sup>	<b>.310</b>	.076
31. No existe nada tan importante como para incumplir la ley (TLV)	.255	-.304
32. Una persona hambrienta tiene derecho a robar (TLV) <sup>a</sup>	<b>.300</b>	.183
33. Está bien ir sorteando la ley siempre y cuando no incumplas la ley (TLV) <sup>a</sup>	.091	.276
34. Solo debemos cumplir las leyes que parecen razonables (TLV) <sup>a</sup>	.054	<b>.452</b>
35. Es de locos trabajar para vivir si hay una forma más fácil, incluso si esto significa incumplir la ley (TLV) <sup>a</sup>	.002	<b>.615</b>
36. La gente que incumple la ley y yo pensamos igual (ICO) <sup>a</sup>	-.064	<b>.690</b>
37. Me siento más cómodo con la gente que cumple la ley que con los que no (ICO)	.250	.232
38. Yo soy más parecido a un "delincuente profesional" que el resto de los delincuentes que conozco (ICO) <sup>a</sup>	-.086	<b>.555</b>
39. Me parezco más a las personas que incumplen la ley que con los que la cumplen (ICO) <sup>a</sup>	.053	<b>.544</b>
40. Tengo poco en común con la gente que siempre cumple la ley (ICO) <sup>a</sup>	-.030	.296
41. El que incumple la ley no puede ser mi amigo (ICO)	.089	-.001
Eigenvalue	8.5	3.17
Variance accounted for (%)	20.7	7.7

Note. Items comprising each factor are in bold. L = law, C = court, and P = police comprise LCP subscale; TLV = tolerance for law violations; ICO = identification with criminal others.

<sup>a</sup> Items with reverse score.

simultaneously was thought to be crucial. However, like the factor analyses performed by both Kroner and Mills (1998) and Simourd and Olver (2002), there were some items that simply did not load either of the factors, or loaded too much both of them. The CFA completed by Simourd and Olver (after the completion of an EFA), did not comprise all the items because of this problem with the

**Table 4**  
Comparison of CSS-M SV Total Score between Subgroups (ANOVA)

	N	M	SD	F
Nationality				
Foreigner	40	44.78	14.81	
Native	113	44.42	17.30	0.01
Type of offence				
Nonviolent	59	41.20	16.44	
Violent	94	46.60	16.51	3.88*
Recidivism				
First Entry	72	41.50	15.81	
Prison Recidivist	81	47.20	16.99	4.57*
Crimes serving				
one offence	73	43.07	16.49	
2 or more offences	80	45.84	16.77	1.06
Length of sentence				
Up to 10 years	121	44.63	16.44	
More than 10 years	32	44.09	17.63	0.03

\*  $p < .05$ .

loading: for instance, the LCP subscale turned out to include only 18 of the 25 original items, increasing the relevance of the model factor structure but removing many items from this subscale. This is precisely one of the limitations of the present study to be considered. These items should be revised appropriately in order to have an all-41-item scale with better loadings, none of them removed, helping to increase the variance explained by the two factors (28.4%). Some lessons have to be learnt from this structural weakness, in order to improve the CSS-M scale in future studies.

The statistically significant differences in CSS-M scores in the Spanish version between inmates with violent crimes and those with other type of offences are consistent with the assumption that the more violent the crime perpetrated is, the more criminal attitudes the offender holds (Helmus, Hanson, Babchishin, & Mann, 2013; Nunes, Hermann, Maimone, & Woods, 2015; Polaschek, Bell, Calvert, & Takarangi, 2010). Indeed, the new Spanish CSS-M reinforces the criminal theories of social learning in which criminal attitudes are learnt from criminal associates (Sutherland & Cressey, 1978). Likewise, and according to the ANOVA analysis, it makes sense that people that enter prison for the first time have less criminal attitudes than those who do not.

The importance of criminal attitudes as a risk factor for specific offenders and thus as a criminogenic domain, would seem obvious, and therefore it could be expected that rehabilitative efforts by practitioners are heading in this direction. But the meta-analyses show that the treatment programmes do not always focus on attitude changes. However, the CSS-M Spanish version could be part of an advance in correctional assessment technology to improve treatment programs in both Catalan and Spanish Prison Services.

In conclusion, according to the psychometric properties of this scale, it can be concluded that this Spanish version of the CSS-M is a reliable and valid instrument to measure pro-criminal attitudes. This instrument, which is simple and fast to administer, can fill the gap between the knowledge of the importance of criminal attitudes and its lack of applicability. Finally, the availability of this instrument in Spanish represents a significant contribution to practical applications that can be widely shared and used by professionals, enabling them to make better decisions based on this source of evidence.

### Conflict of Interest

The authors of this article declare no conflict of interest.

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### References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211. [http://dx.doi.org/10.1016/0749-5978\(91\)90020-T](http://dx.doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behaviour. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173–221). Mahwah, NJ: LEA.
- Andrews, D. A. (1980). Some experimental investigations of the principles of differential association through deliberate manipulations of the structure of service systems. *American Sociological Review*, 45, 448–462.
- Andrews, D. A., & Bonta, J. (1995). *The LSI-R: The Level of Service Inventory-Revised*. Toronto: Multi-Health Systems.
- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conduct* (5<sup>th</sup> ed.). New Providence, NJ: Matthew Bender & Co.
- Andrews, D., Bonta, J., & Wormith, J. S. (2006). The Recent Past and Near Future of Risk and/or Need Assessment. *Crime & Delinquency*, 52, 7–27.
- Andrews, D. A., Young, F. G., Wormith, J. S., Searle, C. A., & Kouri, M. (1973). The attitudinal effects of group discussion between young criminal offenders and community volunteers. *Journal of Community Psychology*, 1, 417–422. [http://dx.doi.org/10.1002/1520-6629\(197310\)1:4<417::AID-JCOP2290010418>3.0.CO;2-V](http://dx.doi.org/10.1002/1520-6629(197310)1:4<417::AID-JCOP2290010418>3.0.CO;2-V)
- Arbach-Lucioni, K., Martínez-García, M., & Andrés-Pueyo, A. (2012). Risk factors for violent behavior in prison inmates: a cross-cultural contribution. *Criminal Justice and Behavior*, 39, 1219–1239. <http://dx.doi.org/10.1177/0093854812445875>
- Arce, R., Velasco, J., Novo, M., & Fariña, F. (2014). Elaboración y validación de una escala para la evaluación del acoso escolar [Development and validation of a scale to assess bullying]. *Revista Iberoamericana de Psicología y Salud*, 5, 71–104.
- Banise, R., Koppehele-Gossel, J., Kistemaker, L. M., Werner, V. A., & Schmidt, A. F. (2013). Pro-criminal attitudes, intervention, and recidivism. *Aggression and Violent Behavior*, 18, 673–685. <http://dx.doi.org/10.1016/j.avb.2013.07.024>
- Blackburn, R. (1993). *The psychology of criminal conduct: Theory research and practice*. Chichester, UK: Wiley.
- Gendreau, P., Grant, B. A., Leipziger, M., & Collins, C. (1979). Norms and recidivism rates for the MMPI and selected experimental scales on a Canadian delinquent sample. *Canadian Journal of Behavioural Science*, 11, 21–31. <http://dx.doi.org/10.1037/h0081569>
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works!. *Criminology*, 34, 575–608. <http://dx.doi.org/10.1111/j.1745-9125.1996.tb01220.x>
- Hambleton, R. K. (2005). Issues, designs, and technical guidelines for adapting tests into multiple languages and cultures. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting educational and psychological tests for cross-cultural assessment* (pp. 3–38). Mahwah, NJ: LEA.
- Hanson, R., & Harris, J. (2000). Where should we intervene?: Dynamic predictors of sexual assault recidivism. *Criminal Justice and Behavior*, 27, 6–35. <http://dx.doi.org/10.1177/0093854800027001002>
- Helmus, L., Hanson, K. R., Babchishin, K. M., & Mann, R. E. (2013). Attitudes supportive of sexual offending predict recidivism: A meta-analysis. *Trauma, Violence & Abuse*, 14, 34–53. <http://dx.doi.org/10.1177/1524838012462244>
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55. <http://dx.doi.org/10.1080/10705519909540118>
- Kroner, D. G., & Mills, J. F. (1998). The structure of antisocial attitudes among violent and sex offenders. *International Journal of Offender Therapy and Comparative Criminology*, 42, 246–257. <http://dx.doi.org/10.1177/0306624X9804200306>
- Maio, G. R., & Haddock, H. (2010). *The psychology of attitudes and attitude change*. London, UK: Sage.
- Mandracchia, J. T., & Morgan, R. D. (2012). Predicting offenders' criminogenic cognitions with status variables. *Criminal Justice and Behavior*, 39, 5–25. <http://dx.doi.org/10.1177/0093854811425453>
- Mills, J. F., Kroner, D. G., & Hemmati, T. (2004). The Measures of Criminal Attitudes and Associates (MCAA): The prediction of general and violent recidivism. *Criminal Justice and Behavior*, 31, 717–733. <http://dx.doi.org/10.1177/0093854804268755>
- Muthén, L. K., & Muthén, B. O. (2010). *Mplus user's guide* (6<sup>th</sup> ed.). Los Angeles, CA: Muthén & Muthén.

- Nunes, K. L., Hermann, C. A., Maimone, S., & Woods, M. (2015). Thinking clearly about violent cognitions: Attitudes may be distinct from other cognitions. *Journal Interpersonal of Violence*, 30, 1322–1347. <http://dx.doi.org/10.1177/0886260514540329>
- Polaschek, D. L., Belli, R. K., Calvert, S. W., & Takarangi, M. K. (2010). Cognitive-behavioural rehabilitation of high-risk violent offenders: Investigating treatment change with explicit and implicit measures of cognition. *Applied Cognitive Psychology*, 24, 437–449. <http://dx.doi.org/10.1002/acp.1688>
- Redondo, S., Martínez-Catena, A., & Andrés-Pueyo, A. (2012). Therapeutic effects of a cognitive-behavioural treatment with juvenile offenders. *The European Journal of Psychology Applied to Legal Context*, 4, 159–178.
- Shields, I. W., & Simourd, D. J. (1991). Predicting predatory behavior in a population of young offenders. *Criminal Justice and Behavior*, 18, 180–194. <http://dx.doi.org/10.1177/0093854891018002006>
- Shields, I. W., & Whitehall, G. (1991). *The Pride in Delinquency Scale*. In Paper presented at the Eastern Ontario Correctional Psychologists' Winter Conference. Burritts Rapids Canada.
- Simourd, D. J. (1997). The Criminal Sentiments Scale-Modified and Pride in Delinquency Scale: Psychometric properties and construct validity of two measures of criminal attitudes. *Criminal Justice and Behavior*, 24, 52–70. <http://dx.doi.org/10.1177/0093854897024001004>
- Simourd, D. J., & Olver, M. (2002). The future of criminal attitudes research and practice. *Criminal Justice and Behavior*, 29, 427–446. <http://dx.doi.org/10.1177/0093854802029004005>
- Skilling, T. A., & Sorge, G. B. (2014). Measuring antisocial values and attitudes in justice-involved male youth: Evaluating the psychometric properties of the Pride in Delinquency Scale and the Criminal Sentiments Scale Modified. *Criminal Justice and Behavior*, 41, 992–1007. <http://dx.doi.org/10.1177/0093854814521415>
- SPSS Inc. (2006). *SPSS Base 15.0.1 for Windows User's Guide*. Chicago, IL: SPSS Inc.
- Sutherland, E., & Cressey, D. (1978). *Criminology* (10<sup>th</sup> ed.). Philadelphia, PA: Lippincott.
- Walters, G. (2012). Criminal thinking and recidivism: Meta-analytic evidence on the predictive and incremental validity of the Psychological Inventory of Criminal Thinking Styles (PICTS). *Aggression and Violent Behavior*, 17, 272–278. <http://dx.doi.org/10.1016/j.avb.2012.02.010>
- Wolff, N., Morgan, R. D., & Shi, J. (2013). Comparative analysis of attitudes and emotions among inmates: Does mental illness matter? *Criminal Justice and Behavior*, 40, 1092–1108. <http://dx.doi.org/10.1177/0093854813488760>